Amendments to the Claims

The "Listing of Claims" replaces all prior versions of claims in the application.

Listing of Claims:

1-19. (Cancelled).

20. (Currently Amended) The method according to claim ~~19~~ 39, wherein the stimulation comprises electrical stimulation.

21. (Currently Amended) The method according to claim 20, wherein the electrical stimulation is provided by a stimulation circuit comprising at least two stimulation electrodes in contact with an area of the ~~facial~~ skin substrate subject to the stimulation and an electrical stimulator connected to the microprocessor.

22. (Currently Amended) The method according to claim ~~19~~ 39, wherein the skin substrate is facial skin which is further subjected to a stress and the electrical signals detected by the first and second non-invasive electrodes with the stress is compared to the electrical signals detected by the first and second non-invasive electrodes without the stress.

23. (Cancelled).

24. (Currently Amended) The method according to claim ~~19~~ 39, wherein the first non-invasive electrode is positioned such that it is capable of transmitting signals representative of the electrical activity of at least one branch of a facial trigeminal nerve

selected from the group consisting of an ophthalmic branch, a maxillary branch, a mandibular branch and combination thereof.

25. (Previously Presented) The method according to claim 24, wherein the at least one branch comprises the maxillary branch.

26. (Currently Amended) The method according to claim ~~19~~ 39, further comprising applying a weak alternating current to the first non-invasive electrode and measuring the impedance of the ~~facial~~ skin substrate.

27. (Cancelled).

28. (Currently Amended) The apparatus according to claim ~~27~~ 40, wherein the at least one non-invasive measuring electrode is non-polarizable or weakly polarizable.

29. (Currently Amended) The apparatus according to claim ~~27~~ 40, wherein the at least one non-invasive measuring electrode comprises a material selected from the group consisting of stainless steel, tungsten, noble metals and mixtures thereof.

30. (Currently Amended) The apparatus according to claim ~~27~~ 40, further comprising an adaptable holder and an adjustable arm having a first end and a second end, wherein the first end is connected to the adaptable holder, and wherein the at least one non-invasive measuring electrode is connected to the second end.

31. (Currently Amended) The apparatus according to claim ~~27~~ 40, comprising at least two non-invasive measuring electrodes, wherein at least one non-invasive measuring electrode is capable of measuring impedance of the ~~facial~~ skin substrate.

32. (Previously Presented) The apparatus according to claim 31, further comprising at least one adjustable voltage generator associated with at least one transmitting aerial erected in proximity to the at least one non-invasive measuring electrode capable of measuring impedance.

33. (Currently Amended) The apparatus according to claim ~~27~~ 40, wherein the at least one amplifying element comprises at least one preamplifier having a high input impedance over a voltage range of from -3 to +3 volts.

34. (Previously Presented) The apparatus according to claim 33, wherein the at least one preamplifier is connected directly to the at least one reference electrode.

35. (Previously Presented) The apparatus according to claim 33, wherein the at least one preamplifier is connected directly to the non-invasive measuring electrode.

36. (Previously Presented) The apparatus according to claim 33, wherein the at least one preamplifier is connected to the non-invasive measuring electrode by a shielded cable.

37. (Previously Presented) The apparatus according to claim 36, wherein the shielded cable comprises a shield connected to an output of the at least one amplifying element.

38. (Currently Amended) The apparatus according to claim ~~27~~ 40, wherein the at least one processing element comprises an analog/digital converter.

39. (New) A method for the non-invasive, *in vivo,* determination of the conductivity of nerves in a region of skin, comprising:

(a) detecting the electrical signals from the nerves, *in vivo,* in a first region of a skin substrate by applying a first non-invasive electrode at a first measuring point and a second non-invasive electrode at a second measuring point in the first region of the skin substrate prior to topical application of a compound on the skin substrate and after topical application of a compound on the skin substrate;

(b) subjecting the skin substrate to stimulation, *in vivo,* in a second region of the skin substrate by applying a first non-invasive stimulation electrode at a first measuring point and a second non-invasive stimulation electrode at a second measuring point in the second region of the skin substrate prior to topical application of a compound on the skin substrate and after topical application of a compound on the skin substrate;

(c) recording the electrical signals detected by the first non-invasive electrode and the second non-invasive electrode;

(d) determining, with an evaluation circuit, the conductivity of the nerves in the first region of the skin substrate, by analyzing the electrical signals detected prior to topical application of a compound on the skin substrate and prior to stimulation of the skin substrate, and after topical application of a compound on the skin substrate and after stimulation of the skin substrate, the evaluation circuit comprising at least one amplifying element, at least one processing element, and at least one microprocessor including at least one recording element, and a display; and

(e) determining the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals.

40. (New) An apparatus for the non-invasive, *in vivo,* determination of the conductivity of nerves in a region of a skin substrate, comprising:

(a) a first non-invasive measuring electrode and a second non-invasive measuring electrode for detecting electrical signals, *in vivo*, from the nerves in a first region of a skin substrate;

(b) an electronic stimulator connected to a first non-invasive stimulation electrode and a second non-invasive stimulation electrode for applying electrical stimulation to the skin substrate in a second region of the skin substrate;

(c) at least one reference electrode for detecting electrical signals from the nerves;

(d) a circuit, connected to the first non-invasive measuring electrode and the second non-invasive measuring electrode, the electronic stimulator, and the at least one reference electrode, for determining the conductivity of the nerves in the first region of the skin substrate by analyzing the electrical signals detected by said electrodes prior to topical application of a compound on the skin substrate and electrical stimulation of the skin substrate, and after topical application of a compound on the skin substrate and electrical stimulation of the skin substrate, the circuit comprising at least one amplifying element, at least one processing element, and at least one microprocessor that includes at least one recording element, and a display, wherein a curve representative of differentials in the signals detected by the first non-invasive measuring electrode and the second non-invasive measuring electrode, as a function of time, is created and displayed.